

Nature's Call

An Activity Newsletter for Kids by Utah's Project WILD--Fall 2002/Winter 2003

Utah's Super Snakes! It has no legs, no eyelids, scaly skin, a forked tongue and it's cold-blooded. Sounds like something weird and bizarre from a scary movie. Instead it's just a snake. Snakes belong to a group of reptiles called, Serpentes. This name comes from a Latin word, *serpens*, which means "to creep or to crawl."

Since snakes have no legs, creeping and crawling is how they move along. Having no legs though hasn't kept them from doing much. They can still climb, dig, swim and move fast across the ground. To help them move snakes use long scales, or *scutes*, that run from side to side across the underside of their bellies. Each scute is connected to the snake's ribs by muscles. These muscles let the snake tilt or pull each scute back and forth. When a snake moves on the ground, the scutes dig in like the tread of an army tank to let the snake pull itself along. The belly scales to the walking! Long, heavy snakes usually move this way.

To move faster, a snake moves its body along in an S-shaped path. Forward progress is made as the snake pushes the curves of its body against rocks and sticks on the ground. It uses its belly scales too to get extra traction. Swimming snakes move this way too, using the resistance of the water to push themselves along.

To climb a snake first bunches up its body in the shape of an "S." Then it anchors its tail (some snakes have a tail they can coil to hang onto things), and lifts and stretches the front part of its body upward. Last it anchors the front part of its body (gripping with its belly scales) and pulls the tail up.

Snakes would be great at a staring contest. With no eyelids, they would always win because they can never blink. To protect their eyes, they have special scales called *brilles* covering their eyes. Snakes don't have ears either. This doesn't mean they can't hear though. They just hear differently. Snakes can pick up vibrations passing through the ground with their jawbones. The vibrations are transferred from the jawbones to their inner ears.

The forked tongue of a snake isn't used for tasting or talking. Instead it's used to "smell." The tongue picks up chemical molecules and transfers them to an organ in the roof of the snake's mouth. This organ is called the Jacobson's organ. It analyzes the molecules to help the snake track prey, recognize predators and find a mate. Since the tongue of the snake is forked, it can smell in "stereo." This lets the snake know which direction a chemical signal is coming from.

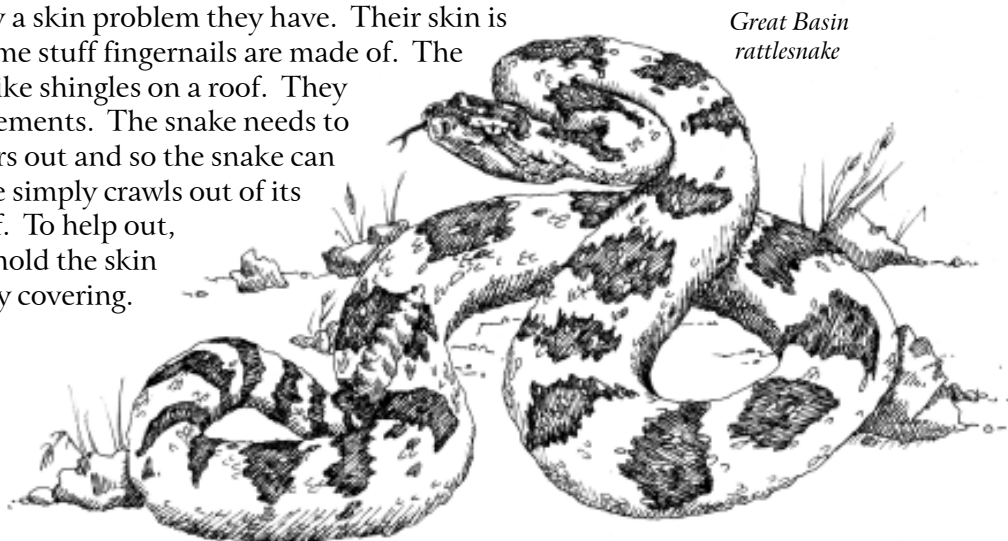
Some snakes can even detect heat waves with special heat sensing organs found in small pits on their face. These organs allow a snake to "see" a visual heat map that shows them the distance and direction of objects that are warmer or colder than their surroundings. With these heat-sensing organs, a snake can find and capture a mouse in total darkness.

Snakes sometimes eat animals that are way bigger than their own body. They can do this because they have jaws that aren't attached to their skull or joined in the middle up front. This lets them open their mouth very wide. Teeth that point backwards and muscles help pull a snake's meal down its long throat.

The scaly skin of snakes is not caused by a skin problem they have. Their skin is scaly because it's made of *keratin*, the same stuff fingernails are made of. The scales on their back overlap each other like shingles on a roof. They protect the snake from injury and the elements. The snake needs to shed its skin from time to time as it wears out and so the snake can grow. When shedding its skin, the snake simply crawls out of its skin, turning it inside out as it comes off. To help out, snakes use rocks and brush to snag and hold the skin as it pulls off. Underneath is a new shiny covering.

Now that you know more about snakes, describing one won't seem so strange!

Read on to learn more about the snakes that live in Utah.



Great Basin
rattlesnake

Ssssnakes: Friend or Foe?

Do you like snakes? Or are you afraid of them? Maybe you’re not sure. Snakes are some of the coolest animals on Earth. Even so, many people are very scared of snakes. Some scientists think people are born preprogrammed to become afraid of snakes. Not everyone starts out being afraid of snakes, but a few scary stories or a bad experience with a snake can trigger the fear. Other people never become scared of snakes, and some learn to really like them.

How do scientists explain this inborn program in our mind? They reason that in the past people came across snakes more often. Any of our ancestors who were naturally fearful of snakes probably had a better chance of surviving than ancestors who were not afraid of snakes. The fearful ancestors lived to pass their fear of snakes on to their young through their genes. Over time, the readiness to become afraid of snakes became genetically ingrained in our brain. Many monkeys like chimpanzees are naturally afraid of snakes too.

People around the world have always had very strong feelings about snakes. Either snakes were considered very special and worshiped as gods. Or they were thought of as evil and hated. Because of these feelings, snakes have played a big role in religions over time. They have also been woven into much folklore and art.

In Egypt ancient rulers like King Tut wore snake images on their crowns. The symbol of Asclepius, the Greek god who discovered medicine, is two snakes wrapped around a staff. This symbol is still used by doctors around the world today. Native American people created many stories about snakes too. In many of the stories, snakes brought the rain needed for Mother Earth to provide an abundance of crops.

Other cultures have been less kind to snakes. In the story of Adam and Eve in the Garden of Eden, the snake is said to be the devil. This has led many people to fear and dislike snakes. Such fears led many snakes to be harmed or killed for no good reason.

A lot of people fear snakes because they are afraid of being bitten. They think that if they are bitten they will surely die. In reality, very few snakes are truly dangerous to people. Of all the snakes, less than 1/3 use venom to kill their prey. Only half of those can bite a human, but hardly ever do. Only about 20 venomous snakes live in the United States, and each year, only about 10 to 15 people die from being bitten. Many more people die from bee stings, dog bites or being struck by lightning. Most bites happen when people are handling a snake or trying to kill it. Chances are you will never even see a venomous snake in the wild, let alone get bitten.

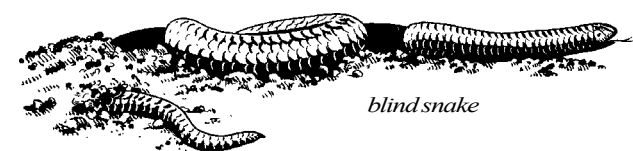
No matter how you feel about snakes, it’s important to know snakes are not bad. Like all other living things they are just trying to survive. Actually in terms of benefits to people snakes are very good. The more you learn about snakes, the less scary they’ll seem.

Read on to learn about some neat facts about the snakes that make their home in Utah. After you learn about snakes, create a survey to learn how your friends and family members feel about snakes. Also ask them where they think their feelings came from. Keep track of who you have questioned and their answers. When you are done, make some comparisons using the responses. For example, see if girls fear snakes more than boys, older people or young people, etc. Have fun learning how people feel about snakes!

Blind Snake – *Leptotyphlops humulis*

Blind snakes look like worms more than snakes. In fact they are also called worm snakes or thread snakes. Blind snakes are thin and pinkish-gray in color. On their head they have two tiny dark spots that are primitive eyes only able to see light and dark. They also have a pointy spur on their tail.

Blind snakes are rarely seen because they burrow underground. They only have teeth in their lower jaw but are able to munch on termites and ants, their favorite prey, with no problem.



blind snake

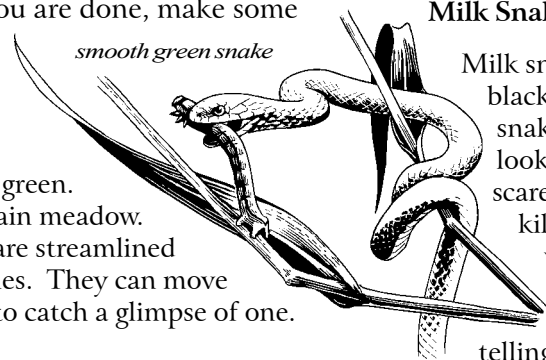
Smooth Green Snake – *Liochlorophis venales*

Like their name says, these snakes are smooth and green. They are as bright green as fresh grass in a mountain meadow. And that’s where they live. Smooth green snakes are streamlined sleek snakes that measure between 15 and 30 inches. They can move very fast through the grass. You have to be quick to catch a glimpse of one.

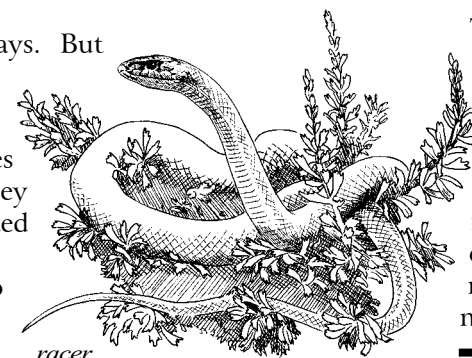
Racer – *Coluber constrictor*

The racer is not a constrictor like its scientific name says. But they truly are racers. Clocked at a speed of 3½ miles per hour, they are considered one of the fastest snakes.

Racers have shiny blue brown or dark olive colored scales on their back. Underneath they are lighter in color. They have very large eyes with round pupils. When confronted by people, racers usually race away. If cornered, they become very aggressive. They don’t have venom, but do have a lot of sharp teeth and their bite can hurt.



smooth green snake



racer

Rubber Boa – *Charina bottae*

Rubber boas are not made of rubber. Their smooth scales and loose, chocolaty-brown skin just make them look and feel like rubber. Rubber boas belong to the family of snakes that includes large anacondas and pythons. Rubber boas are tiny in comparison though and measure only about 2 feet long.

Rubber boas do squeeze, or constrict, their prey like all boas but they stick to small prey like mice, frogs, lizards and small birds. They are sometimes called two-headed snakes. This is because when they are threatened, they hide their real head and stick out their tail as decoy. Sometimes they even wiggle their tail and make false “strikes” to scare off danger.

Gopher Snake – *Pituophis catenifer*

Gopher snakes are very good actors. Harmless to people, they wear a pattern of colors similar to rattlesnakes. What fools people too is that gopher snakes also shake their tails against grasses to make a rattling sound. Though the threat is all just bluff, it’s so good many people confuse gopher snakes with rattlesnakes and try to kill them. On the other hand, it helps to scare predators away.

Gopher snakes are active during the day. They are quite common and people often cross their path. They are large muscular snakes that can grow to 5 or 6 feet long. Gopher snakes spend their time checking out burrows and rocky crevices for rodents, the prey they like best. Because they have no venom, they kill their prey by constriction.

Milk Snake – *Lampropeltis triangulum*

Milk snakes are bright colored snakes. They wear red, black and yellow stripes similar to the venomous coral snake. This can be good or bad depending on whose looking. If it’s a predator, that predator might be scared off. If it’s a person, that person might try to kill it. You can tell a milk snake from a coral snake with a simple rhyme: “Red next to black is a friend of Jack; Red next to yellow is a deadly fellow.” In Utah you should have no problem telling the difference since we have no coral snakes.

They feed on rodents and like to visit barns or other human buildings where there are lots of mice. A folktale gave milk snakes their name. The tale says these snakes suck all the milk out of the cows and so they were named. A farmer might have thought a milk snake with a belly full of mice had instead drunk a stomach full of milk. Of course, snakes don’t drink milk and the tale is not true.



milk snake

Garter Snakes – *Thamnophis spp.*

If you see a snake swimming in a pond it’s most likely a garter snake. They are usually olive-greenish colored with three clear yellow or orange stripes running down their back.

Garter snakes like moist areas and are often found along the edges of streams and marshy ponds. They also visit people’s gardens so some people call them “garden” snakes. Garter snakes usually capture frogs, earthworms, slugs and small fish. Not too choosy, they also eat insects, spiders, small birds and rodents.

Garter snakes are harmless to people. Don’t try to catch one though unless you want your nose to be surprised. When captured, they will often emit a very stinky smelling liquid that will surely make you let go.

Ringneck Snake – *Diadophis punctalis*

The ringneck snake, as its name tells us has a ring around its neck. This is true for most ringneck snakes. The kind we have here in Utah often doesn’t. Ringneck snakes are colored blue-gray to greenish-gray above. Their

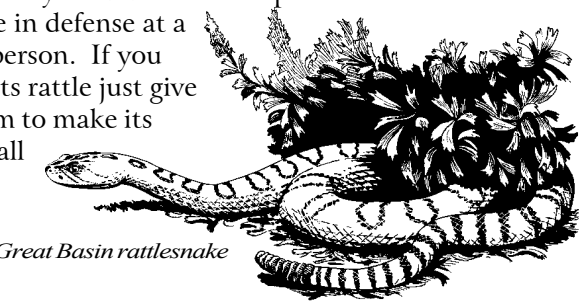
bellies though are bright yellow or orange. When alarmed, they flash their bright undersides to ward off danger. If still threatened, they emit a bad-smelling substance too. Some even fake death which usually causes a predator to loose interest.

Besides their unusual defense, ringneck snakes are also interesting because they have a primitive venom system. In their mouth they have extra large rear teeth, and chemicals in their saliva that can paralyze their prey.

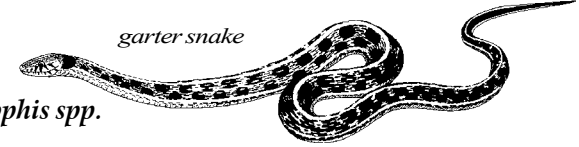
Rattlesnakes – *Crotalus spp.*

Rattlesnakes get their name from the rattle at the end of their tail. The rattle is made of cup-shaped segments that link together. When a rattlesnake shakes its tail, the segments hit each other and create the rattle sound. A rattlesnake adds a new segment every time it sheds. But you can’t tell how old one is by counting the segments of its rattle. This is because they can shed more than once a year, and segments break off over time.

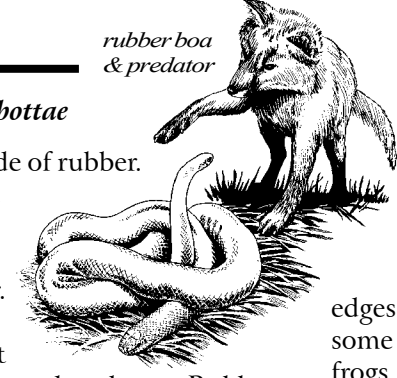
Rattlesnakes are also famous for their venom and fangs. Fangs are like hypodermic needles. They are sharp-pointed, curved, hollow teeth with a small opening at the side of the tip. Upon striking, the fangs puncture the prey and inject venom. As it runs off, the venom quickly kills the victim. The rattlesnake then uses its chemically-sensitive tongue and heat-detecting pits on its face to track down its meal. Rattlesnakes use their venom mainly to kill their prey. They would rather escape than have to strike in defense at a threat as big as a person. If you hear one shake its rattle just give it plenty of room to make its getaway and all will be ok.



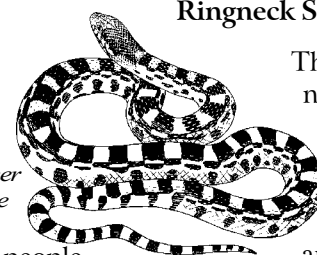
Great Basin rattlesnake



garter snake



rubber boa
& predator



gopher
snake



ringneck
snake

Make A Coiled Snake Pot!

Wildlife and the Arts

Snakes have been an inspiration for art throughout history. Some of the earliest artwork showing snakes are serpent-like stone carvings found on walls of prehistoric caves and snake forms scratched into teeth of extinct mammoths from Siberia. The ancient Mayans of Central America decorated their buildings and pyramids with the diamond pattern of rattlesnakes and rattle images. Crowns and headdresses of ancient Egyptian rulers were adorned with snakes cast from gold.

Petroglyphs from early Native American cultures also feature snake images. These images were etched into desert varnished faces of sandstone rocks. Native Americans also wove snake images into their baskets, painted them on pottery and created bowls from their serpentine shape.

To make your own coiled snake pot, follow the directions below. You will need clay, a ruler and a couple of toothpicks or a pointed wooden stick.

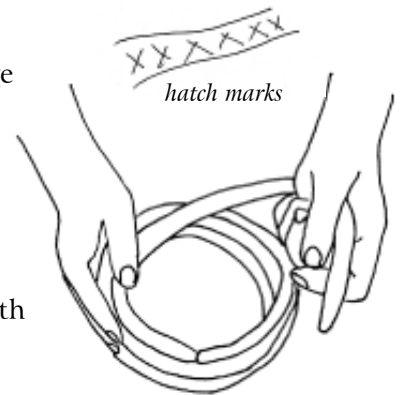


2) Next, make a 13-inch coil by rolling clay back and forth between your hands and your work surface. Roll from the center of the coil to its ends. Make the coil as thick as your finger.

1) You will make the pot from the bottom up. Flatten a ball of clay by pressing it with your palm. The bottom needs to be a flat circle as thick as your thumb and 3-4 inches across.



3) Then put the clay coil around the edge of the flat bottom. To join the pieces of clay, make several tiny hatch marks with the stick on each of the two surfaces where they will touch each other. This is called **scoring**. Scoring helps the two pieces stick together better. Then gently press the coil and the bottom together with your fingers.



4) Smooth the seam between coils on the **inside** of the pot. Also, press together the two ends of the coil and smooth the seam where they join.

5) Make another 13-inch coil on top of the one already in place. Score the clay with the toothpick where the pieces touch each other. Gently press the two coils together to make them stick. Then press the two ends of the new coil together and smooth the seam.



8) Last, decorate your snake by scratching some diamond shapes on the coils of the snake pot with a toothpick. You can add some scales too if you like, and maybe some eyes and nostrils on the head.



7) Form a rattle for the end of your snake's tail. Use the stick or a toothpick to add details to the rattle. Also score the surface of the tail and the edge of the pot opposite the head where they will join. Then place the rattle on the top coil of the pot, across from head. Gently press the rattle to make it stick to the pot. Smooth the seam where the tail joins the edge of the pot.

